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James F. Woodward, Secretary

BUREAU OF TOPOGRAPHIC AND GEOLOGICAL SURVEY
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DECLINE OF MCKEESPORT GAS POOL.

By

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On my visit to Western Pennsylvania last week I found conditions that seem to call for an immediate statement by this office; first, to correct a misunderstanding or a purposeful misconstruction of two statements in my former report, and second, to warn those now blindly investing in stock in undrilled wells in the McKeesport pool, of the utter waste of further drilling in that pool and the certain losses that must come. The prediction of the Oil City Derrick that in six months the present area of development will be as dead as the proverbial herring may not be fully realized, but with the gas pool obviously one half exhausted and with some wells yielding hardly more than one-fifth of their yield a month ago, according to their owners; with other wells yielding less than one-sixth of their "conservatively" reported outputs, it is obvious that the public should know the facts at once.

In my former report I said 'If one-half of the gas wells now projected in the McKeesport gas district are drilled, the immediate field will do well to last two years.' This statement appears to have been overlooked or purposely suppressed and another statement applying not to this pool but to the field as a whole that 'by extending drilling to the northeastward the supply may continue to furnish heat--- for a dozen or a score of years' has been made to apply to the McKeesport district.

To make the matter perfectly clear, the area southeast of McKeesport will be referred to as the McKeesport pool and may be defined as the area in which as shown by declining gas pressure, there is direct connection between the wells now drilled near the mouth of Long Run and Snake Hollow. Only time will show the extent of this pool. The

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field as a whole, may be, as it long has been, known as the Murrysville field, and may be defined as all of the Murrysville anticline that shall prove to be gas-bearing.

This field has been supplying gas to Pittsburgh and other cities for 36 years. Exploratory drillings have tested a large part of the anticline, but the variable character of the Speechley sand and the discovery of local pools, such as that near McKeesport, in territory already partially tested, are only two of the facts that convince me that the field as a whole will not be dead for some years to come.

The conditions in the so-called McKeesport or Snake Hollow pool are entirely different from those over the field as a whole. In the first place, instead of the land ownership being in farms and allowing the assignment of a normal acreage to each well, say eighty acres, the land had, in part at least, been subdivided into town lots, opening the door to a bargain counter rush. Second, the big Foster well struck a place in the sand not only of open grain, but of so loose grain, that the current of gas flowing into the well quickly blew out channels for itself, making what has possibly been the best gas well financially the world has ever known. It has been estimated that in the first one hundred days this well delivered about five billion cubic feet of gas to the pipe lines. A calculation of the possible amount of gas in an acre-foot of the sand is sufficient to convince anyone that this well is drawing from a very large acreage and had it been the only well in the pool, would doubtless have exhausted the pool in a year or two. With other wells being sunk into the same pool week by week, the exhaustion must be visibly hastened and although it may not be possible at this time to predict definitely whether the pool will be dead in six months or in two years, the present conditions leave no doubt that the pool has seen its best days, and that investments now being made for future drilling are almost certain to result in partial, if not total, losses.

As hinted in the first part of my statement, I believe the evidence fully warrants the statement being made in certain papers, that the rock pressure and gas flow are on the average only about one-half what they were four months ago. No exact measurement of the original rock pressure was obtained but from a measurement of about 1200 pounds made in the first Philadelphia well before the casing began to rise, it is guessed that the original rock pressure must have been close to 1400 pounds to the square inch. Measurements during the last two weeks are reported to have shown 800, 745, and the last one 730 pounds to the square inch, an average reduction of five to six pounds a day.

If this reduction continues, and the number of wells now being drilled would seem to insure its continuance, it can readily be calculated how long the pressure will be sufficient to drive the gas into the pipe line. Indeed, were that rate of reduction to continue to the end, it would indicate the total life for the field to be nine months. As a matter of fact, as the output of the field decreases with the decrease of pressure, the curve of production tends to flatten out, particularly after the installation of pumps, so that it may be between one and two years and possibly a little longer before the field is abandoned. But it should be noted that the earlier drilled wells to

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which open channels have been cut by the high gas pressure, are likely to be the favored ones in the final roundup, except such wells as are driven at the greatest distance from the big well and yet in the pool.

Conditions in this pool follow very closely those in other pools, where diverse ownership of land has allowed overdrilling, and it may be expected that the financial results will be similar. For example, in the Cleveland gas field, which resembles this pool in many ways, the total returns from the gas yield were estimated to fall \$100,000 short of the cost of drilling alone. Remembering the large returns of the early wells, it is obvious to what extent the losses fall upon the late comers.

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Therefore, I feel it cannot be too strongly emphasized that, although the Murrysville field as a whole and outside of the McKeesport pool is a legitimate field for development, further drilling in the McKeesport pool must result in serious financial losses.

